

## PATENT COOPERATION TREATY

## PCT


INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 23 MAR 2005

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Applicant's or agent's file reference TS 6405 PCT		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2004/050681		International filing date (day/month/year) 03.05.2004		Priority date (day/month/year) 05.05.2003
International Patent Classification (IPC) or national classification and IPC E21B43/10				
Applicant SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing : sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  03.02.2005		Date of completion of this report  22.03.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523658 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Tompouloglou, C  Telephone No. +49 89 2399-2077		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/050681

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-7 as originally filed

**Drawings, Sheets**

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**POINT V**

Closest prior art: D1: WO-A-0198623 discloses an expansion device (fig. 14) for expanding a pipe (1435), which expansion device has a front end (anchor 1430) and a rear end (1450) and comprises an expansion cone (1440) tapering in forward direction toward the front end of the expansion device, an anchor capable of being selectively anchored to the inner surface of the pipe (1435), an actuator for moving the pipe.

Problem: This embodiment require two further support members a first one (1425) for the pipe and second one (1445) for the expansion cone. The first one is an elongated tubular member linked to the surface and the second one is a packer which require a setting in order to be active. Therefore the expanding operation becomes expensive.

Solution: The distinguishing feature of claim 1 result in that the actuator for moving the expansion device has the double function of selectively advancing the expansion device or the anchoring means the selection between the two states being automatic. This entails that the actuator supports the expansion device and the pipe to be expanded. Therefore no additional support member is required.

D2: W0-A-02086285 discloses indeed an actuator for moving the expansion device between two anchoring sets inside the pipe. The operation is done in two separate steps, an expansion step and a reset step, the latter requiring a second actuator for pushing the pipe. A coordination of activating the anchors and the pipe is not provided the operation having thereby the further disadvantage that switching from one step to the other is not performed automatically.

Therefore this document does not contribute to an operational efficiency and cannot be used to debate the inventive step of claim 1.

**POINT VII**

Following was not observed:

- Rule 6.3 (b) PCT: Two part form of the independent claim.
- Rule 6.2 (b) PCT: Reference signs in the claims.
- Rule 5.1 (a) ii) PCT: Reference also to D1 and its disclosure in the description.